

Gremlin

INTEROFFICE MEMORANDUM

To: V. Avakian

From: R. Mitchell

Date: 7-15-77

CC:

Subject: JUSTIFICATION

1. During the period January thru June of 1977 a total of \$182,704 was spent on sheet metal brackets, chassis etc. The dollar break-down is as follows:

Contract Systems	\$ 78,420.
Superior Metal	70,858.
Weldmac	9,700.
Nordic	6,943.
Escon	<u>16,783.</u>
	\$182,704.

2. After evaluation of all Engineering Drawings it has been determined that 60% or \$109,500. of that work could be done by the Machine Shop rather than use outside vendors if this capital invest was made by Gremlin.

3. The figure of \$109,500 may be viewed in the following manner:

Vendor labor & profit = Total Cost - Material Cost = \$95,800
(Note: Material cost averages 12.5% of total cost)

4. The vendor labor & profit has been based on the following set of assumptions:

- A. Our Machine Shop can manufacture at approximately the same speed as an outside vendor.
- B. The average labor of our Machine Shop is \$9.00 per man-hour versus the vendor at an average of \$13.00 per man-hour.
- C. The vendor must derive a profit to labor ratio of 30% profit and 70% labor.
- D. Of the calculated labor dollars Gremlin could perform the same work for \$9.00 instead of \$13.00 or at a savings of 31%.

5. Therefore:

- A. Savings due to vendor profit = $95,800 \times .30 = \$28,743$
- B. Savings due to labor differential was calculated as follows:

Total	\$95,800.
Profit	<u>28,743.</u>
	\$67,057
	$\times .31 = \$ 20,788$
<u>TOTAL SAVINGS</u>	<u>\$ 49,531</u>

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6. Additional labor expenditure on the part of Machine Shop that would equal in dollars that of the vendor for work performed is as follows:

$$\$67,057 \times .69 = \$46,270$$

7. Additional space requirement = 1,500 sq. ft.
6 months \times .22 sq.ft. \times 1,500 sq. ft. \$1,980.

TOTAL ADDITIONAL COST == \$48,250.

8. To project the increase in build in the next 6 months the following chart was devised:

<u>MONTH</u>	<u>UNITS</u>	<u>MONTH</u>	<u>UNITS</u>
Jan.	976	Aug.	410
Feb.	570	Sep.	575
Mar.	568	Oct.	530
Apr.	387	Nov.	595
May	357	Dec.	675
<u>Avg. of 5 Mo. 571</u>		<u>Jan.</u>	<u>775</u>
	<u>3,429</u>		<u>3,560</u>

The increase is 1.038%. This is a multiplying factor used against the past six months build. See summary.

9. As of 7-14-77 there was a balance remaining in stock of 50,754 metal parts. Figures in the summary will assume that 60% of this, or \$30,452, represents materials bought but not used. Therefore actual useage of work that could be done in-house was \$79,047. Correspondingly actual useage of work performed by vendors would be $73,204 - 29,281 = \underline{\$43,922.}$

S U M M A R Y

	<u>Jan 77 - Jun 77</u>	<u>Aug 77 - Jan 78</u>
Total Dollar Expenditure To Outside Vendors	\$ 122,969.00	\$ 127,641.82
Total Dollars Work to be Brought In-House	79,047.00	82,050.00
Dollar Difference (To Remain At Outside Vendor)	40%	51,056.40
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Total Cost to be Done In-House	\$ 79,047.00	\$ 82,050.00
Material Costs	9,880.00	10,255.00
Labor Costs	38,161.00	39,611.00
Add-On Space Costs	1,980.00	1,980.00
TOTAL COSTS	\$ 50,021.00	\$ 51,846.00
Dollars Saved Before Capital Equipment or Expenditures	\$ 29,026.00	\$ 30,204.00
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Capital Equipment Cost	\$ 20,625.00	
Initial Tooling Required	\$ 4,365.00	
	\$ 24,990.00	
Net Savings First 6 Months	\$ 5,214.00	
Savings to be derived during the following 6 months assuming the schedule of build would be the same as the period Aug 77 - Jan 78.		
TOTAL WORK		\$ 82,050.00
Material Costs	\$ 10,255.00	
Labor Costs	39,611.00	
Space Costs	1,980.00	
Expendable Tools Cost	4,365.00	
TOTAL COSTS	\$ 56,211.00	
Net Savings Second 6 Months		\$ 25,839.00
<u>TOTAL NET SAVINGS FOR A 12 MONTH PERIOD</u>		<u>\$ 31,053.00</u>

FINAL JUSTIFICATION FROM PURCHASING
AND INVENTORY & PRODUCTION CONTROL

1. As of 7-10-77 Gremlin Industries had a stock dollar value in metal parts of \$50,754. This figure should be viewed with respect to the actual part usage of \$ 122,969. The prime reason this has occurred was the result of changes in schedules with outstanding Purchase Orders that were non-cancellable. Assuming 60% of this dollar figure to be done in-house would mean that Purchasing would have instant control in stopping \$ 30,500. of work due to schedule changes at an estimated maximum cost of \$ 3,800. ($30,500 \times 12\frac{1}{2}\%$ material cost).
2. Gremlin would enjoy the benefits of equipment depreciation.
3. Heavy metal working equipment is actually an investment in that its value increases due to inflation.
4. Purchasing costs will be significantly reduced due to the fact that 10 to 12 raw items would be bought instead of 50 or more finished parts.
5. Receiving Inspection costs will be reduced in that 100% inspection occurs at the present time, 60% of this would be reduced. Accompanying this would be other saving benefits derived, but at this time too difficult to measure, from Inventory Control, Receiving, Materials Handling, Accounting and Data Processing.